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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/838,606	04/19/2001	Timothy M. Schmidl	TI-31457	3520
23494	7590	07/14/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED			KIM, KEVIN	
P O BOX 655474, M/S 3999			ART UNIT	
DALLAS, TX 75265			PAPER NUMBER	
			2638	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/838,606

Applicant(s)

SCHMIDL ET AL.

Examiner

Kevin Y. Kim

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 February 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 9, 12-14, 16, 17, 19, 21-29 is/are rejected.
- 7) ☒ Claim(s) 7, 10, 11, 15, 18, 20, 30 and 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

1. The affidavit filed on 2-14-2005 under 37 CFR 1.131 is sufficient to overcome the Garten et al reference.

### ***Claim Objections***

2. Claim 31 9s objected to because of the following informalities: the claim is written as dependent on claim 29 but must have been meant to be dependent on claim 30 when the context is considered and thus will be treated as dependent on claim 30. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 1-6,8,9,12,13,14,16,17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US 6,519,460) in view of Herold (DE 3415032).

Claims 1,6,8, 9,16,17.

Haartsen discloses a frequency hopping system, i.e., a Bluetooth system, including a master and a plurality of slave units, see Fig.4A. The claimed invention further calls one unit to determine whether any of the frequency hopping channels are interfered with and to send message to other units such that less RF channels are used in the standard hopping sequence.

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Herold teaches an adaptive frequency hopping technique where the used frequencies are monitored and channels suffering interference are blocked, thereby “less RF channels” being used. See Abstract.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to determine interfered channels in the frequency hopping sequence in the frequency hopping system of Haartsen and use “a reduced hopping sequence” by dropping the interfered channels to improve communication as taught by Herold.

Claims 2-5,19.

Herold failed to teach specific method for determining the interfered channels. However, the packet error rate, receiving signal strength indicator,  $E_b/(N_0 + I_0)$  and CRC, called for in the claims, are all well known and commonly used channel quality measures and thus would have been obvious to one skilled in the art at the time of the invention since any of them could be used as measure to determine interference and the disclosure failed to disclose criticality of using these known quality measures.

Claims 12 and 13.

Whether the master or slave unit determines interfered channels would have been an obvious matter of choice.

Claim 14.

Since channels to be avoided are communicated to the remote unit and the frequency hopping channels constitute the bandwidth, this message is “information on the bandwidth of the RF channels.”

***Claim Rejections - 35 USC § 102***

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 21 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Herold (DE 3415032).

Herold discloses a frequency hopping system where the used frequencies are monitored and channels suffering interference are blocked, thereby “less RF channels” being used. Although not described in details, a message informing the new frequency hopping sequence must be transmitted to the corresponding communication unit since the frequency hopping sequence at the transmitter and receiver must be the same.

7. Claims 23-25,27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herold as applied to claims 21 and 26 above.

Herold failed to teach specific method for determining the interfered channels. However, the packet error rate, receiving signal strength indicator,  $E_b/(N_0 + I_0)$  and CRC, called for in the claims, are all well known and commonly used channel quality measures and thus would have been obvious to one skilled in the art at the time of the invention since any of them could be used as measure to determine interference and the disclosure failed to disclose criticality of using these known quality measures.

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*Allowable Subject Matter*

8. Claims 7, 10, 11, 15, 18, 20, 30 and 31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Venderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KEVIN KIM  
PATENT EXAMINER

